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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/905,267	07/13/2001	Victor Chornenky	P894 US	2731

7590 11/21/2003

IP Legal  
Medtronic AVE, Inc.  
3576 Unocal Place  
Santa Rosa, CA 95403

EXAMINER

KEANEY, ELIZABETH MARIE

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 11/21/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/905,267

Applicant(s)

CHORNENKY, VICTOR

Examiner

Elizabeth Gemmell

Art Unit

2882

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 25 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5, 7-14 and 16-20 is/are rejected.
- 7) ☒ Claim(s) 6 and 15 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-5,7-14 and 16-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Ochmann et al. (US Patent 4,797,905; hereinafter Ochmann).

Re claim 1: Ochmann discloses, in figure 1 and throughout the disclosure, a system for emitting x-rays comprising:

- an x-ray emitter (2);
- a controller operably connected to the x-ray emitter (140);
  - wherein the controller determines an actual dose rate based on an emitter cut-off energy (column 4, line 11; dose power), a radiation depth and received current and voltage sensor signals and adjusts an applied voltage to allow the actual dose rate to match a predetermined dose rate (column 1, lines 39-41);
  - wherein the applied voltage is increased when the actual dose rate is less than the predetermined dose rate, and the applied voltage is decreased <sup>when</sup> ~~with~~ the actual dose rate is greater than the predetermined dose rate (column 1, lines 42-43);

*filed*

- a current sensor operably connected to the controller (110); and
- a voltage sensor operably connected to the controller (100);

Re claim 2: Ochmann discloses the current sensor measures the current through the x-ray emitter a plurality of times per second (column 1, lines 23-24).

Re claim 3: Ochmann discloses the voltage sensor measures the voltage through the x-ray emitter a plurality of times per second (column 1, lines 23-24).

Re claim 4: The dose evaluation (30) takes place after the image is impinged with x-rays, therefore Ochmann discloses the adjustment to the actual dose rate, made by the controller, is based on an irradiation depth.

Re claim 5: Ochmann discloses the actual dose rate is calculated a plurality of times per second (column 1, lines 23-24).

Re claim 7: The dose evaluation (30) takes place after the image is impinged with x-rays, therefore Ochmann discloses the adjustment made to the actual dose rate by the controller to correct for tissue radiation absorption.

Re claim 8: Ochmann discloses the controller adjusting the actual dose rate by correcting for an increased target area with an increasing treatment radius (column 2, lines 49-51).

Re claim 9: Ochmann discloses a current integrator operably connected to the current sensor and the controller to integrate instant current values over time to determine an accumulated charge (column 4, lines 40-44).

Re claim 10: Ochmann discloses, in figure 1 and throughout the disclosure, a method of operating a device for emitting x-rays comprising:

- applying a voltage from a voltage source to the device (100);
- measuring current and voltage within the device (30);
- determining an actual dose rate based on an emitter cut-off energy, a radiation depth and the measured current and voltage (column 1, lines 39-41);
- comparing a desired dose rate to the actual dose rate (column 1, lines 39-41);
- increasing the applied voltage when the actual dose rate is less than the predetermined dose rate (column 1, lines 42-43); and
- decreasing the applied voltage when the actual dose rate is greater than the predetermined dose rate (column 1, lines 42-43).

Re claim 11: Ochmann discloses the measuring of the current and voltage comprises sampling the current and voltage a plurality of times per second (column 1, lines 23-24).

Re claim 12: The dose evaluation (30) takes place after the image is impinged with x-rays, therefore Ochmann discloses the adjustment to the actual dose rate, made by the controller, is based on an irradiation depth.

Re claim 13: The dose evaluation (30) takes place after the image is impinged with x-rays, therefore Ochmann discloses the adjustment made to the actual dose rate by the controller to correct for tissue radiation absorption.

Re claim 14: Ochmann discloses the determination of the actual dose rate comprises calculating the actual dose rate a plurality of times per second (column 1, lines 23-24).

Re claim 16: Ochmann discloses the determining of the actual dose rate comprises integrating instant current values over time to determine an accumulated charge (column 4, lines 39-49).

Re claim 17: Ochmann discloses the applied voltage comprises stabilizing the actual dose rate (column 1, lines 42-43).

Re claim 18: Ochmann discloses selecting the desired dose rate by an operator (column 1, lines 11-12).

Re claim 19: Ochmann discloses a computer usable medium storing program (column 1, lines 35-36) comprising:

- computer readable code for applying a voltage from a voltage source to the device (column 2, lines 43-46);
- computer readable code for measuring current and voltage within the device (column 2, lines 39-40);
- computer readable code for determining an actual dose rate based on an emitter cut-off energy, a radiation depth and the measured current and voltage (column 1, lines 39-41);
- computer readable code for comparing a desired dose rate to the actual dose rate (column 1, lines 39-41);
- computer readable code for increasing the applied voltage when the actual dose rate is less than the predetermined dose rate (column 1, lines 42-43); and
- computer readable code for decreasing the applied voltage when the actual dose rate is greater than the predetermined dose rate (column 1, lines 42-43).

Re claim 20: Ochmann discloses, in figure 1 and throughout the disclosure, a system for emitting x-rays comprising:

- means for measuring current and voltage (30);
- means for determining an actual dose rate based on an emitter cut-off energy, a radiation depth and a measured current and voltage (column 1, lines 39-41);
- means for comparing a desired dose to the actual dose rate (column 1, lines 39-41);
- means for matching the actual dose to the desired dose rate by increasing and decreasing the applied voltage (column 1, lines 42-43).

***Allowable Subject Matter***

Claims 6 and 15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: As set forth in previous Office Actions.



**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Gemmell whose telephone number is (703) 305-1937. The examiner can normally be reached on Monday-Thursday 6:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ed Glick can be reached on (703) 308-4858. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7722.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

emg

  
EDWARD J. GLICK  
SUPERVISORY PATENT EXAMINER